

CHUDNOVSKIY, A.F., prof.; IOFFE, A.F., akademik, red.; GOL'TSBERG, I.A.,
red.; YULISH, F.A., tekhn.red.; KULEVA, M.S., tekhn.red.

[Frosts] Zamoroski. Pod red. A.F.Ioffe. Leningrad, Gidrometeor.
izd-vo, 1949. 122 p. (MIRA 15:6)
(Frost)

CHUDNOVSKIY, A. F.

AID 205 - I

PHASE I Treasure Island Bibliographical Report

BOOK

Call No.: QC861.L25

Authors: LAYKHITMAN, D. L. and CHUDNOVSKIY, A. F.

Full Title: PHYSICS OF THE SURFACE LAYER OF THE ATMOSPHERE

Transliterated Title: Fizika prizemnogo sloya atmosfery

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of Technical Theoretical Literature

Date: 1949

No. pp.: 254

No. copies: 3,000

Editorial Staff

Editor: None

Tech. Ed.: None

Ed.-in-Chief: Committee of the Academy
of Sciences, USSR

Appraiser: None

Text Data

Coverage: This monograph covers aerodynamic and thermodynamic processes in the surface layers of the atmosphere which regulate life in the biosphere. It includes the thermal balance and mechanical processes in the soil; dynamic equations related to movements, transfer of heat and turbulence in the surface layer of the atmosphere; questions of energetics in turbulent currents; wind and the coefficient of turbulent viscosity in the surface layer; temperature and water vapor in the layer.

The book presents a practical application of known methods, mathematical formulae, and instruments to the study of the lower surface atmospheric layer. The results are of interest to agriculture and geophysics. As it appears from the large number of references, the book is a compilation

1/2

Card 2/2

AID 205 - I

Call No.: Q0861.L25

Full Title: PHYSICS OF THE SURFACE LAYER OF THE ATMOSPHERE

Text Data

Coverage (cont.) from original works and seems to be of no particular interest.
In addition, the authors state that this is the first attempt at preparing a monograph in this field, and there may be serious defects.

Purpose: For the use of geophysicists, meteorologists, agrometeorologists and students of these specialties.

Facilities: None

No. Russian and Slavic References: 54 some translated from German and English by Russian authors

Available: Library of Congress

CHUDNOVSKIY, A. F.

30866. CHUDNOVSKIY, A. F. AND KAGANOV, M. A.

Opredeleeniye koeffitsienta temperaturoprovodnosti pochvy po dannym
srochnykh izmereniy temperatury. Izvestiya Akad. nauk SSSR, Seriya geogr. i
geofiz., 1949, No. 5, s.428-33. -- Bibliogr: 5 nazv.

CHUDNOVSKIY, A.F.

Microclimate station. Sbor. trud.po agron. fiz. no.5:58-61 '52.

(MIRA 11:7)

(Microclimatology)

KAGANOV, M.A.; CHUDNOVSKIY, A.F.

Device for measuring the temperature of the soil surface.

Sbor.trud.po agron. fiz. no.5:81-85 '52.

(MIRA 11:7)

(Soil temperature--Measurement)

CHUDNOVSKIY, A.F.

Cylindrical sound for measuring thermal characteristics of soils.
Sbor.trud.po agron. fiz. no.5:86-89 '52. (MIRA 11:7)
(Soil temperature--Measurement)

KAGANOV, M.A.; CHUDNOVSKIY, A.F.

Using semiconductor thermistors for measuring microclimate.

Sbor.trud.po agron.fiz. no.5:102-113 '52.

(MIRA 11:7)

(Thermistors) (Microclimatology)

CHUDNOVSKIY, A.F.

New thermal method for measuring the dynamics of soil moisture.

Sbor.trud.po agron. fiz. no.5:114-118 '52.

(Soil moisture--Measurement)

(MIRA 11:7)

Chudnovskiy, A.F.

TSETTIN, G.Kh; CHUDNOVSKIY, A.F.

Determining soil temperature on the basis of given air temperatures.

Trudy GGO no.37:20-27 '52.

(MIRA 11:1)

(Soil temperature)

L. HUDNOVSKIY, A. F.

631.6:551.584.42
 Kaganov, M. A., Kiselev, S. B. and Chudnovskiy, A. F. Vliyanie orosheniya na mikro-
 klimat pochvy i prizemnogo sloya vozdukh. [Influence of irrigation on the microclimate of
 the soil and on the air layer near the ground.] Gidrotekhnika i Melioratsiya, Moscow, No.
 1:52-63, 1953. 10 figs., 7 tables, 5 refs. DLC A number of graphs shows microclimatic
 differences between an irrigated and an nonirrigated field (wheat and barley), observed in the
 Saratov district. Absolute and relative humidity at different heights, as well as air tempera-
 ture are compared for twelve days. Furthermore, the diurnal variation of soil temperature
 is discussed. Subject Heading: 1. Microclimate of fields 2. Irrigation 3. Saratov District,
 European U.S.S.R. A.A. 16

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CHUDNOVSKIY, A. F.

GP ✓ 7.4-266 551.584.631.67
 Chudnovskii, A. F., *Mikroklimat i teplovoy balans oroshayemogo polya*. [Microclimate and heat balance of an irrigated field.] (In: Akademiya Nauk SSSR, Institut Geografii [and] Institut Lesa, *Mikroklimaticheskie i klimaticheskie issledovaniya v Prikaspijskoi Nizmennosti*, Moscow, 1953. p. 124-133. 15 figs., 11 tables; refs. DLC—The method and results of an investigation, in the summer of 1951, at the Engels Agricultural Experimental Station near Saratov, on the influence of irrigation and artificial rain in order to: 1) obtain quantitative indications of this influence, 2) explain from the viewpoint of the heat balance the regularities in the dynamics of the microclimate obtained under the effect of irrigation, and 3) determine on the basis of an analysis of the heat balance, the variation of evaporation on an irrigated field and compare it with same on nonirrigated sections. Comparative graphs show the humidity variations on irrigated and nonirrigated fields at different heights over the ground up to 2 m, and heat balance differences. Subject Headings: 1. Field microclimatology 2. Irrigation effects 3. Saratov Region, U.S.S.R.—A.M.P.

254T93

USSR/Meteorology - Heat Conductivity Mar/Apr 53

"Determining the Coefficient of Heat Conductivity of Soils," M. A. Kaganov and A. F. Chudnovskiy
Agric Phys Inst, VASKhNIL

Iz Ak Nauk SSSR, Ser Geofiz, No 2, pp 183-190

Discussion of methods for determining this coef, which methods are based on the utilization of periodicity in the behavior of temp. Coef of heat conductivity is detd by measurements of soil temp at 2 depths daily, semiannually, or annually.

254T93

BURNATSKIY, D.P.; ROZHANSKAYA, O.D.; CHUDNOVSKIY, A.F.

Effect of shelterbelts on microclimate. Sbor.trud.po agron.fiz.
no.6:57-90 '53. (MIRA 11:7)
(Windbreaks, shelterbelts, etc.) (Forest influences)

KHVOLES, S.B.; CHUDNOVSKIY, A.F.

Radiation received by fields between shelterbelts. Sbor.trud.po
agron.fis. no.6:91-95 '53. (MIRA 11:7)
(Forest influences) (Soil temperature)

KAGANOV, M.A.; RYABOVA, Ye.P.; ~~CHUDNOVSKIY~~, A.F.

Soil temperature of fields between strips of forest. Sbor.trud.
po agron.fiz. no.6:96-104 '53. (MIRA 11:7)
(Soil temperature) (Forest influences)

CHUDNOVSKIY, A.F.; NOVOZHILOV, Yu.V., redaktor; VOICHOK, K.M., tekhnicheskiiy redaktor.

[Heat exchange in dispersion media] Teploobmen v dispersnykh sredakh. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954.
444 p. (MIRA 8:1)

(Heat)

CHUDNOVSKII, A. I.

✓ Heat method of determining moisture content of capil-

lary-porous materials. A. F. Chudnovskii. *Zhur. Tekh. Fiz.* 24, 2190-2201 (1954). A method is given for detg. the moisture content of porous materials by observing the cooling rate of a small metallic plate imbedded in the material that has been heated to a predetd. temp. The actual app. consists of a cylinder or a sphere of 10-15 sq. cm. surface area. This contains a Cu constantan thermocouple and 1 m. of wire of about 20-ohm resistance. At a given moment a 6-v. battery is connected to the resistor and a thermocouple galvanometer observed until it reaches the max. on the scale. The current is switched off and galvanometer readings are taken every $\frac{1}{2}$ min. for 2-3 min. The last indication of the galvanometer at the end of the observation period, or the entire cooling curve, characterizes the heat transfer of the app. to the surrounding material which depends on its moisture content. A theoretical discussion is given.

V. N. Bednarski

USSR/Physics - Condensation in soils

FD-2415

Card 1/1 Pub. 153-19/21

Author : Chudnovskiy, A. F.

Title : Mechanism and role of intra-soil condensation

Periodical : Zhur. tekhn. fiz. 25, 149-157, Jan 1955

Abstract : There exists a very rich literature devoted to the significance of condensation within soil and to the evaluation of the specific weight of the this effect in the general water balance of soil; here, by intra-soil condensation is meant the process governing the transfer of vapor within soil, which is accomplished thanks to the presence in the soil of temperature drop and in consequence of causes accompanying the occurrence of this drop, particularly the gradient of vapor tension with a material. The author finds various expressions for the vapor flow q passing through unit surface, diffusion D , total heat flux Q in soil, heat conductivity λ of soil, etc. He concludes that intra-soil condensation can be evaluated on the basis of a consideration of the heat transferred by the vapor. Twenty-three references: e.g. A. V. Lykov, Izv. Vsesoyuzn. Teploekhn. inst. [News of All-Union Heat Engineering Institute], No 10, 1952.

Institution: --

Submitted : June 5, 1954

CHUDNOVSKIY, A.F.
Category : USSR/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 1557

Author : Chernyakova, M.A., Chudnovskiy, A.F.

Title : New Method of Measuring the Thermal Characteristics of Semiconductors

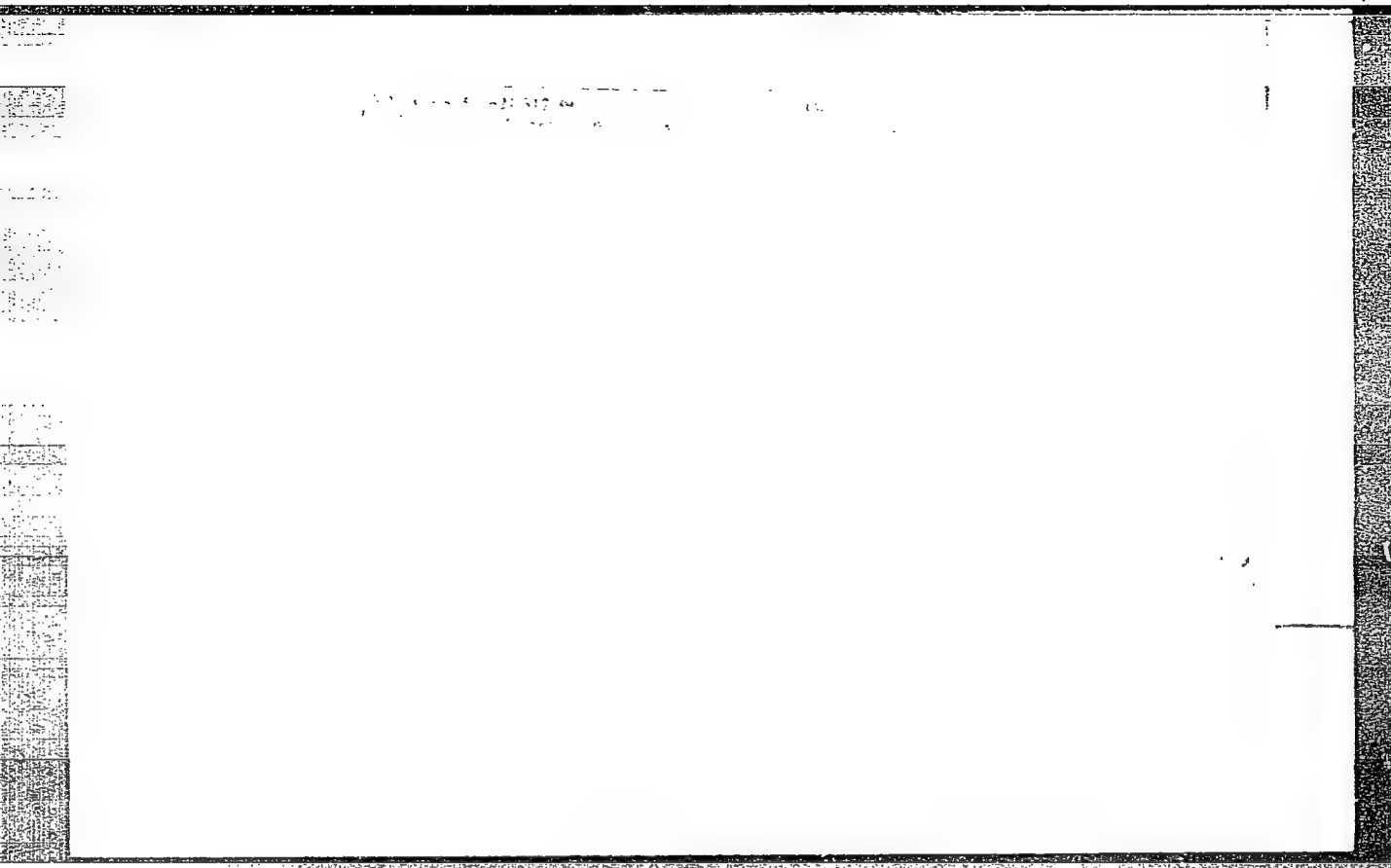
Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 6, 1013-1018

Abstract : A new method is proposed for measuring the thermal characteristics of semi-conductors. The method is based on the use of the time dependence of the body temperature during cooling or heating and on the connection between the speed of temperature change and the temperature conductivity. The temperature dependence of the electric conductivity is also used.

Card : 1/1

"APPROVED FOR RELEASE: 06/12/2000

CIA-RDP86-00513R000509020018-6



APPROVED FOR RELEASE: 06/12/2000

CIA-RDP86-00513R000509020018-6"

CHUDNOVSKIY, I.I.
IOFFE, A.F., akademik, redaktor; SAMPILOV, I.I., akademik redaktor;
VERSHININ, P.V., redaktor; KOLYASNY, F.Ye., redaktor; CHUDNOVSKIY,
A.F., redaktor; REVUT, I.B., redaktor; STEPANOV, L.N., redaktor

[Problems in agricultural physics] Voprosy agronomicheskoi
fiziki. Pod obshchey red. A.F.Ioffe i I.I.Samoilova. Red.
kollegiya P.V.Vershinin i dr. Leningrad, 1957. 327 p. (MIRA 10:6)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni
V.I.Lenina.

(Agricultural physics)

24(6) 9(3.4) **PLANE I BOOK EXPLOSION** 80W/503

Академия наук СССР. Институт полипроцессинг /
Poliprovodniki v nauke i tekhnike, t. 2. (Semiconductors in science
and Technology, Vol 2) Moscow, Izd-vo AN SSSR, 1975. 658 p.
17,000 copies printed.

Resp. Ed.: A.P. Ioffe; Tech. Ed.: R.S. Permer.

REMARKS: This collection of articles is intended for scientists, en-
gineers and technicians.

CONTENTS: The collection, published by the Semiconductor Institute,
Academy of Sciences, USSR, under the supervision of Academician
A.P. Ioffe, contains Parts II and III of a two-volume work on semi-
conductors. Part II completes the material on semiconductor devices,
began in Volume I. Part III describes various semiconductor materials.
Part II and Part III did not permit inclusion of such subjects as
crystal counters, semiconductor generators, atomic batteries, ma-
trix diodes, semiconductor cathodes, materials for complex cathodes
and various other applications of semiconductors. Ioffe points out
that the article by the American scientists V. Johnson and E. Lark-
erwitz on semiconductors at low temperatures deals with a subject
barely covered in the Soviet literature. Similarly, the article by
the Soviet scientist G. Bush and V. Krimler fills a gap in the
Soviet literature on methods of investigating semiconductor charac-
teristics. These subjects will be dealt with exclusively in a pro-
posed third volume. References appear separately after each article.

TABLE OF CONTENTS:

Ch. 16. **From'yeva-Goyl', A.E.** Application of Semiconductors in
Strain Measurements [Russian].
The author briefly explains the principle of strain sensitivity. 299
She describes the following types of strainmeters used for meas-
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uring deformations by changes in electric resistance: carbon
resistor elements, a carbon-strip gage, a lead sulfide-strip gage
and other types based on semiconductors. There are 24 references,
of which 14 are English, 7 Soviet and 3 German.

Ch. 19. **Gubchenko, A.F.** Semiconductor Devices in Agriculture
[Russian].
The author describes various types of semiconductor instruments
employed for agriculture purposes. There are 38 references, of
which 29 are Soviet and 9 English. 316

CHUDNOVSKIY A.I.

VERSHININ, Petr Vasil'yevich; MEL'NIKOVA, Mariya Konstantinovna; MICHURIN, Boris Nikolayevich; MOSHKOV, Boris Sergeyevich; POYASOV, Nikolay Petrovich; CHUDNOVSKIY, Abram Filippovich, prof.; IOFFE, A.P., akademik, red.; REVUT, I.B., kand.sel'skokhoz.nauk, red.; ORLOVA, L.I., red.; POL'SKAYA, R.G., tekhn.red.

[Principles of agricultural physics] Osnovy agrofiziki. Moskva, Gos.isd-vo fiziko-matem.lit-ry, 1959. 903 p. (MIRA 13:2)
(Agricultural physics)

SOTSKOV, B.S., doktor tekhn.nauk, prof.; VOROB'YEVA, T.M.; kand.tekhn.
nauk; CHUDNOVSKIY, A.F., doktor fiz.-mat.nauk, prof.; KAGANOV,
M.A., kand.fiz.-mat.nauk.

Review of I.F.Volshin, A.S.Kasperovich, and A.G.Shashkov's book
"Semiconductor thermistors." Inzh.-fiz.zhur. no.1:124-126 Ja
'60. (MIRA 13:4)

(Thermistors) (Voloshin, I.F.)
(Kasperovich, A.S.) (Shashkov, A.G.)

CHUDNOVSKIY, A.F. [Chudnouski, A.F.]

"Theory of the transfer of energy and matter" by A.V. Lykov, IU.A. Mikhailov. Reviewed by A.F. Chudnouski. Vestsi AN BSSR, Ser. fiz.-tekh. nav. no. 1:142-144 '60. (MIRA 13:6)
(Force and energy) (Mass transfer)

CHUDNOVSKIY, A.F.

Temperature field of the upper layer of the soil as influenced
by its exposure to active effects. Inzh.-fiz.zhur. no.4:23-29 Ap
'60. (MIRA 13:8)

1. Agrofizicheskiy institut, Leningrad.
(Soil temperature)

CHUDNOVSKIY, A.F.

Variable character of the thermal and physical properties of
soils according to their contour and their effect on the
temperature of the soil. Inzh.-fiz.sbur. no.7:51-59 J1 '60.
(MIRA 13:7)

1. Agrofizicheskiy Institut, g. Leningrad.
(Soil temperature)

86448

24,7600(1035,1043,1158)

S/181/60/002/011/037/042
B006/B060

AUTHOR: Chudnovskiy, A. F.

TITLE: Some Variants of Nonstationary Methods of Measuring the Thermal Conductivity of Semiconductors

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 11, pp. 2938-2944

TEXT: This article deals with the difficulties encountered when determining the thermal conductivity coefficient by the most frequently used stationary methods. Some new variants are suggested which are based on the analysis of the temperature field in the specimen concerned under nonstationary conditions. The stationary methods are first discussed and divided into four variants: 1) Direct detection of the thermal conductivity coefficient from a measurement of the temperature gradient and thermocurrent through the specimen; 2) comparative measurement of specimen and a standard, without thermocurrent determination; 3) determination by compensation methods according to Amirkhanov et al, and 4) determination by methods according to G. N. Dul'nev. The nonstationary methods are discussed in greater detail starting from the methods of determining the thermal

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Some Variants of Nonstationary Methods of
Measuring the Thermal Conductivity of
Semiconductors

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diffusivity coefficient k according to Ångström and V. P. Zhuze and A. R. Regel'. The author's own method of determining the k characteristics is then described. This method is published in Ref. 27 and can be applied for a small contact resistance and when resistivity ρ is a linear function of T (which holds true for a small temperature range only); a micro-calorimeter method by Kondrat'yev is made use of in this connection. Another method offered by the author for the k measurement on thin semiconductor plates is based on the problem of nonstationary thermal conductivity in a complex system (standard + semiconductor plate). A formula is written for k . Reference is also made to a method offered by A.V.Ioffe and A. F. Ioffe in 1952 and improved several times over the years. This method allows investigating the relationship of λ with electrical, mechanical, structural, and other semiconductor properties. Another problem discussed is the determination of λ by measurement of the cooling rate which in its turn can be determined from the change of the thermo-emf on the specimen boundary in time. The experimental setup is schematically illustrated for this method, and examples (λ determination of molten quartz and an intermetallic compound) are given to show the way of

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Some Variants of Nonstationary Methods of
Measuring the Thermal Conductivity of
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determining λ from $\ln \Delta T = f(t)$ straight lines. $\lambda = (3.31 \pm 0.02) \cdot 10^{-3} \text{ cal/cm.sec.}$
deg is obtained for molten quartz, and two methods are applied for the
 λ determination of $\text{BiTe}_3 \cdot \text{Sb}_2\text{Te}_3$ (by differential thermocouple and thermo-
emf determination): $4.48 \cdot 10^{-3} \text{ cal/cm.sec.deg}$ and $4.73 \cdot 10^{-3} \text{ cal/cm.sec.deg}$,
respectively. The methods described here are published in Refs. 24-36.
A. G. Shakov and A. S. Kasperovich are mentioned. There are 4 figures and
36 references: 25 Soviet, 2 British, 7 US, and 1 Japanese.

SUBMITTED: July 26, 1960

Card 3/3

CHUDNOVSKIY, A.F.

Calculation method for finding the variable coefficient of temperature
conduction of soil. Inzh.-fiz. zhur. no.12:91-98 B.160.

(MIRA 14:3)

1. Agrofizicheskiy institut, g. Leningrad.
(Soil temperature)

CHUDNOVSKIY, Abram Filippovich; SHLIMOVICH, Boris Movshevich;
GONCHAROV, B.P., red.; BARANOVA, L.G., tekhn. red.

[Transistorized devices in agriculture] Poluprovodnikovye pribory v sel'skom khoziaistve. Leningrad, Izd-vo sel'khoz. litery, zhurnalov i plakatov, 1961. 197 p. (MIRA 15:2)
(Transistors) (Electronics in agriculture)

BARDEYEVA, S.P.; IOFFE, I.A.; KAGANOV, M.A.; CHUDNOVSKIY, A.F.

Semiconductor cooler of circulating liquids. Biul.tekh.-ekon.inform.
no.11:46-48 '61. (MIRA 14:12)

(Liquids--Cooling)

89931

S/170/61/004/003/010/013

B117/B209

24.7600 (1043, 1158, 1143)

AUTHORS: Kaganov, M. A., Lisker, I. S., Chudnovskiy, A. F.

TITLE: A method of rapidly determining the heat conductivity of semiconducting materials

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 3, 1961, 110-112

TEXT: The authors suggest an improved version of the method developed by A. V. Ioffe and A. F. Ioffe for determining the heat conductivity of semiconductors within a narrow range of temperatures near room temperature (10 - 15 °C). The test device consists of two copper blocks, between which the specimen is placed. In order to determine the heat conductivity, one has to adjust the temperature gradient at the specimen, $\Delta T = T_2 - T_1$, and the temperature variation with time, T_2 , of the upper block by means of two individual differential thermocouples. The authors suggest to determine the heat conductivity of the specimen from the rate of cooling of the upper block. It is evident that the temperature drop over the specimen varies according to the same law as does the temperature of the upper block. This may be

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concluded from the fact that the rate of cooling of all parts of the system is equal under normal conditions. The rate of cooling of many semiconductive materials may be found from the graph thermo-electromotive force at the boundary of the specimen versus time in semilogarithmic co-ordinates. The heat conduction coefficient λ as determined from the function $\ln \Delta T = f(\tau)$ was $(3.31 \pm 0.02) \cdot 10^{-3}$ cal/cm \cdot sec. deg for molten quartz (Fig. 2, curve 3). According to published data, it amounts to $3.33 \cdot 10^{-3}$ cal/cm \cdot sec. deg at 20°C. The heat conduction coefficient of $\text{Bi}_2\text{Te}_3 \cdot \text{Sb}_2\text{Te}_3$, as measured by means of a differential thermocouple, was $4.48 \cdot 10^{-3}$ kcal/cm \cdot sec. deg, and determination of by a measurement of the thermo-electromotive force yielded $4.73 \cdot 10^{-3}$ kcal/cm \cdot sec. deg (Fig. 2, curves 1 and 2). The somewhat lesser inclination of curve (1) as compared to curve (2) may be explained by an additional thermal resistance which is due to a thin mica plate between the lower block and the specimen. An insulating intermediate layer is necessary for the elimination of the shunting effect of the specimen and its thermo-electromotive force upon the indications of the thermocouple. The suggested version of the method by A. V. Ioffe and A. F. Ioffe offers the advantage that the entire curve of temperature drop may be used in the

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place of single points only. Besides, only one instrument is required instead of two. The use of the thermo-electromotive force of the specimen as a temperature indicator allows to employ less sensitive instruments and to record automatically the variation of the temperature gradient. Moreover, an insulating layer is superfluous in this case. There are 2 figures and 5 Soviet-bloc references. loc.

ASSOCIATION: Agrofizicheskiy institut, g. Leningrad (Institute of Agrophysics, Leningrad)

SUBMITTED: June 28, 1960

Card 3/43

BARDEYEVA, S.P., inzh.; IOFFE, I.A., kand.tekhn.nauk; KAGANOV, M.A.,
kand.fiziko-matematicheskikh nauk; CHUDNOVSKIY, A.F., doktor fiziko-
matematicheskikh nauk

Semiconductor equipment for milk cooling. Mekh.i elek.stos.
sel'khoz. 19 no.5:41-44 '61. (MIRA 14:10)

1. Agrofizicheskiy nauchno-issledovatel'skiy institut.
(Milk preservation)
(Refrigeration and refrigerating machinery)

PHASE I BOOK EXPLOITATION

SOV/6110

Chudnovskiy, Abram Filippovich

Teplofizicheskiye kharakteristiki dispersnykh materialov (Thermophysical Characteristics of Dispersed Materials). Moscow, Fizmatgiz, 1962. 456 p. 6000 copies printed.

Ed.: L. I. Orlova; Tech. Ed.: A. A. Luk'yanov.

PURPOSE: This book is intended as a reference manual for engineering calculations in the fields of thermophysics, thermal power engineering, structural physics, etc.

COVERAGE: The term "thermophysical characteristics," as used by the author, includes the thermal parameters characterizing the behavior of the material in the process of heat exchange. The term "dispersed materials" covers two groups of nonmetallic materials: 1) technically important materials of granular, fibrous, and cellular structure in a loose or compact state (e.g., marble, concrete, cork plates, coal, slag, coke dust, sawdust, flax fibers, fibrous asbestos, wood, wool, paper, leather, soil, ground, mining minerals, ice, frozen soil, etc.) and 2) solid nonmetallic materials (e.g., semiconductors, dielectric materials, ceramics, etc.)

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Thermophysical Characteristics (Cont:)

SOV/6110

Regularity patterns in changes of these characteristics of dispersed materials and the dependence of these changes on the properties and structure of the material are presented. Methods for determining the thermophysical characteristics of the basic groups of dispersed materials are given. The appraisal of their thermophysical parameters, the techniques used to measure these parameters for the most important engineering materials, and the conditions, accuracy, and results of the measurements are presented. The author thanks A. V. Lykov, Academician of the Belorussian Academy of Sciences, for his useful and important remarks. There are 782 references, Soviet and non-Soviet.

TABLE OF CONTENTS [Abridged]:

Foreword

6

Introduction

7

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S/862/62/001/000/002/012
E032/E414

AUTHORS: Chudnowskiy, A.F., Mogilevskiy, B.M.
TITLE: Application of the thermoelectric effect in semi-
conductors to the determination of their thermal
conductivity. Angstrom's problem and its possibilities
SOURCE: Teplo- i massoperenos. t. 1: Teplofizicheskiye
kharakteristiki materialov i metody ikh opredeleniya.
Ed. by A.V.Lykov and B.M.Smol'skiy. Minsk.
Izd-vo AN BSSR, 1962. 11-19

TEXT: A brief review of the Angstrom method for determination of
the temperature diffusivity is used to show that the method suffers
from the disadvantage that it can only be used to determine the
temperature diffusivity a and the thermal conductivity λ if the
surface emissivity α of the rod is known. The present paper
describes a modification of the method whereby a and λ can be
simultaneously determined without a knowledge of α . In order to
determine these parameters, use is made of a three-component
"sandwich" in which the central plate is a semiconductor with a
well-defined Peltier coefficient, the plates on either side of the
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Application of the thermoelectric ...

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E032/E414

central element being semiconducting materials. When an alternating voltage is applied across the faces of the central plate the Peltier effect is produced and the heat flow into the outer plates occurs at the same frequency as the supply current. The heat-transfer equation for this (essentially one-dimensional) problem is solved and explicit formulae are derived for the amplitudes of the temperature waves in the system. It is shown that the above parameters can be determined, without knowing α , simply from measurements of these amplitudes. In an apparatus built on this principle, the supply-current frequency was 0.005 to 0.5 cps. and the temperatures were measured by a system of four thermocouples. The apparatus is simple and capable of producing values of λ and α to an accuracy of better than 7%. There are 2 figures.

ASSOCIATION: Agrofizicheskiy institut, g. Leningrad
(Agricultural Physics Institute, Leningrad)

Card 2/2

S/058/63/000/003/076/104
A059/A101

AUTHORS: Bardeyeva, S. P., Lisker, I. S., Chudnovskiy, A. F.
TITLE: Study of the thermoelectric properties of multicomponent systems

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 75, abstract 3E523
(In collection: "Fizika", L., 1962, 34 - 35)

TEXT: The thermoelectric properties of multicomponent solid solutions of the type $\text{AgSbSe}_2\text{-AgSbTe}_2$; $\text{AgBiSe}_2\text{-AgBiTe}_2$; $\text{CuSbSe}_2\text{-CuSbTe}_2$; $\text{CuBiSe}_2\text{-CuBiTe}_2$ were examined. The synthesis of the compounds was performed in a vacuum of about $5 \cdot 10^{-2}$ mm Hg at 1,000 - 1,100 C. The objects of study were prepared from the synthesized substances by hot pressing (7 tons/cm², 200°C) into rectangular pellets. The electric conductivity, the coefficient of thermoelectromotive force, the coefficient of heat conductivity, the Ioffe criteria, and the specific heats of all substances were measured. The dependence of the parameters indicated on temperature was determined in the range between 200 and 250°C.

[Abstracter's note: Complete translation]

A. Zhdan

Card 1/1

CHUDNOVSKIY, A. F.; MOGILEVSKIY, B. M.

Use of the thermoelectric effect in semiconductors in
determining their heat conductivity. Teplo- i massoper. 1:
11-19 '62. (MIRA 16:1)

1. Agrofizicheskiy institut, g. Leningrad.

(Thermoelectricity)
(Semiconductors—Thermal properties)

CHUDNOVSKIY, Abram Filippovich; FREGER, D.P., red.izd-va;
BELOGUROVA, I.A., tekhn.red.

[Use of transistors in agriculture] Primenenie polu-
provodnikov v sel'skom khoziaistve. Leningrad, Leningr.
dom nauchno-tekhn.propagandy, 1963. 47 p. (Seria
"Poluprovodniki," no.14) (MIRA 16:11)
(Transistors) (Electronics in agriculture)

CHUDNOVSKIY, Abram Filippovich; ORLOVA, L.I., red.; LUK'YANOV, A.A.,
tekhn. red.

[What is agrophysics?] Chto takoe agrofizika. Moskva, Fiz-
matgiz, 1963. 85 p. (MIRA 17:1)
(Agricultural physics)

SMIRNOV, V.S.; PAVLOV, N.N.; CHUDNOVSKIY, A.F.; SEMENKOVICH, S.A.

Obtaining semiconductor thermoelements by the plastic deformation
method. Trudy LPI no.222:5-7 '63. (MIRA 16:7)
(Semiconductors) (Metal powder products)

SMIRNOV, V.S.; CHUDNOVSKIY, A.F.; PAVLOV, N.N.; ANDREYEVA, A.N.

Effect of ultrasonic waves on the crystallization and physical
properties of alloys. Trudy LPI no.222:8-14 '63. (MIRA 16:7)
(Alloys—Metallography) (Crystallization)
(Ultrasonic waves—Industrial applications)

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16
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28

SMIRNOV, V.S.; CHUDNOVSKIY, A.F.; PAVLOV, N.N.; ANDREYEVA, A.N.

Effect of vibration on the crystallization of thermoelectric alloys.

Trudy LPI no.222:15-19 '63.

(MIRA 16:7)

(Alloys—Thermoelectric properties) (Crystallization)

ACCESSION NR: AT4037535

S/2563/63/000/224/0203/0216

AUTHOR: Chudnovskiy, A.F.; Babanov, A.A.; Kaganov, M.A.; Lazarev, A.I.; Chernyakova, M.A.

TITLE: Equipment for measuring the heat capacity and thermal conductivity of metals at high temperatures, and data for some heat resistant alloys

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 224, 1963. Lit-eyny*ye svoystva zharoprochny*kh splavov (Castability of heat-resistant alloys), 203-216

TOPIC TAGS: castability, heat resistant alloy, iron based alloy, nickel based alloy, Nichrome alloy, austenitic steel, cast steel, high alloy steel, alloy composition, cast alloy steel, alloy No.3, alloy Kh1, alloy Kh32, alloy No. 6, steel 10KhSND, steel 15KhSND, steel 65 G, steel 1Kh18N9, transformer steel, alloy heat capacity, alloy thermal conductivity, hollow sphere measuring procedure, alpha calorimeter measuring procedure, heat capacity measurement, heat conductivity measurement

ABSTRACT: Special equipment (see Fig. 1 in the Enclosure) was designed and constructed to measure the heat capacity and thermal conductivity of metals at

Card 1/4

ACCESSION NR: AT4037535

temperatures up to 1000C and to obtain curves for the dependence of these parameters on temperature. The hollow sphere procedure was used to measure thermal conductivity, while heat capacity was determined by means of a technique involving two samples, one of which acts as a calorimeter and the other as a so-called "alpha calorimeter". Metals tested included a number of heat resistant alloys (see Nekhendzi, Yu. A., p. 9-23, this same book, for compositions) and other cast alloy steels. The results indicate that the specific heats coincide closely at similar temperatures for alloys of widely varying composition. Sharp peaks in the gamma to alpha conversion range were noted for 10KhSND, 15KhSND and 65 G. Similar peaks, but at varying temperatures, were noted for ferritic steels with 5% Si, steel 1Kh18N9 and heat resistant alloys not subject to such conversions. Thermal conductivity values ranged from about 55-65 cal/m-degrees at 100C to about 25-35 at 800C, except for 65 G (about 42 at 200C to about 25 at 800C) and alloy No. 3 (about 10 at 150C to about 5 at 850C). Orig. art. has: 12 graphs and 6 formulas.

ASSOCIATION: Leningradskiy politekhnicheskii institut im. M.I. Kalinina
(Leningrad Polytechnical Institute)

Card 2/4

ACCESSION NR: AT4037535

SUBMITTED: 00

DATE ACQ: 04Jun64

ENCL: 01

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card 3/4

ACCESSION NR: AT4037535

ENCLOSURE: 01

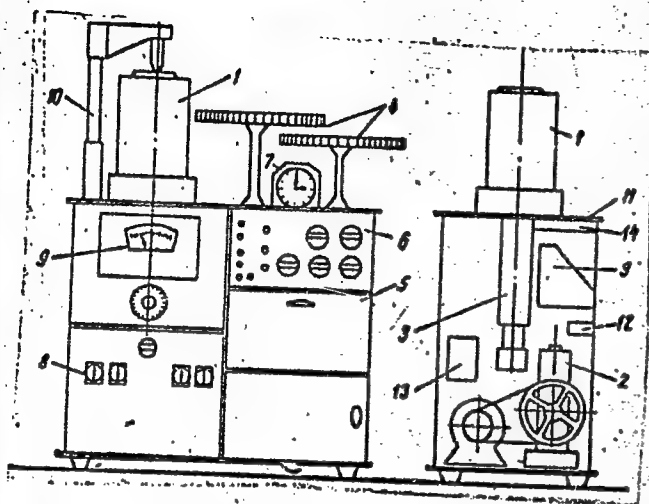


Fig. 1 Overall view of the measuring equipment.

- 1 - vacuum furnace 2 - fore-pump PVN-20 3 - diffusion oil pump MM40A 4 - scales 5 - hinged leaf bench 6 - potentiometer PPTN1 7 - clock with timer 8 - pump, heater, transformer and other switches 9 - vacuum gage dial window 10 - rotating hoist 11 - upper frame plate 12 - adjustable cock 13 - transformer (127/12 v), two-parallel wired auto transformers LATR-1, thermocouple vacuum gage VT-2 14 - fuse box

Card 4/4

S/181/63/005/001/064/064
B104/B186

AUTHORS: Mogilevskiy, B. M., and Chudnovskiy, A. F.

TITLE: Method of observing solid-melt interface movement under the action of direct current

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 366-367

TEXT: A. F. Ioffe's method (ZhTF, 26, 478, 1956) of observing the displacement of the solid liquid interface that takes place under the action of d-c by liberation of the Peltier heat is not easy to apply as the displacement velocity is difficult to measure. The boundary movement, however, can be observed by electrical probes owing to the jumplike changes in resistivity at the boundary between the two phases. The following equation holds for the resistivity of the melt-solid system in a tube having the diameter Q : $R = \rho_{\text{liquid}} l_0 / \delta + (\rho_{\text{solid}} - \rho_{\text{liquid}}) l_{\text{solid}} / \delta$, where ρ_{liquid} and ρ_{solid} are the resistivities of the liquid and solid phases, l_0 is the probe spacing, l_{solid} is the length of the solid phase. The

Card 1/2

Method of observing solid-melt...

S/181/63/005/001/064/064
B104/B186

velocity v_2 of the phase boundary is related with the resistivity change in time: $dR/dt = (\rho_{\text{solid}} - \rho_{\text{liquid}})v_2/\delta$. Bismuth is used as an example to show the applicability of this method. There is 1 figure.

ASSOCIATION: Agrofizicheskiy nauchno-issledovatel'skiy institut, Leningrad
(Scientific Research Institute of Agricultural Physics,
Leningrad) ✓

SUBMITTED: October 10, 1962

Card 2/2

KOMAISHKO, G.S.; STUMBUR, V.K.; CHUDNOVSKIY, A.F.

Semiconductor soil strain gages. Inzh.-fiz. zhur. 6 no.4:101-104
Ap '63. (MIRA 16:5)

1. Agrofizicheskiy nauchno-issledovatel'skiy institut, Leningrad.
(Strain gages) (Soil physics)

NERPIN, S.V., red.; MEL'NIKOVA, M.K., red.; CHUDNOVSKIY, A.F.,
red.; REVUT, I.B., red.; STEPANOV, L.N., red.; POYASOV,
N.P., red.

[Collection of papers on study methods in the field of
soil physics] Sbornik rabot po metodike issledovaniy v
oblasti fiziki pochv. Leningrad, Agrofizicheskii nauchno-
issl. in-t, 1964. 320 p. (MIRA 17:12)

1. Soveshchaniye po koordinatsii i metodike nauchno-
issledovatel'skikh rabot v oblasti fiziki pochv, Leningrad.
2. Agrofizicheskii nauchno-issledovatel'skiy institut,
Leningrad (for all except Nerpin).

ROZENSHTOK, Yu. L.; CHUDNOVSKIY, A. F.

"Solution of heat-conduction problems with variable thermal properties."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk,
4-12 May 1964.

Agricultural Physics Sci Res Inst.

LYKOV, A.V.; ZABRODSKIY, S.S.; SMOL'SKIY, B.M.; CHUDNOVSKIY, A.F.

S.S. Kutateladze; on his 50th birthday. Inzh.-fiz. zhur. no.7:
121-122 J1 '64. (MIRA 17:10)

15011-65 EWT(d)/EPA(s)-2/EPF(n)-2/ENG(v)/EPR/EWA(1) Pe-5/Ps-4/Pt-10/Pu-4
 TTY(a)/AFWL/ASD(a)-5/ASD(p)-2/ASD(p)-3/AFWL/ESD(p)-4
 APR 1965

AUTHORS: Rozenshtok, Yu. L.; Chudnovskiy, A. F.

TITLE: Application of integral single parameter method to solution of the heat conductivity problem for a medium with variable thermophysical characteristics

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 11, 1964, 98-102

TOPIC TAGS: heat conduction, heat equation, differential equation, thermal conductivity

ABSTRACT: The authors give approximate solutions to $c(z, t) \frac{\partial T}{\partial t} = \frac{\partial}{\partial z} \left[c(z, t) \frac{\partial T}{\partial z} \right]$

by simplifying the conduction process to consist of two parts: the first as a transitional process for establishing the temperature field, and the second as a steady state or quasi-steady state process. An example in which the coefficient of heat conductivity is the sole nonconstant coefficient is given. The authors advise the use of this method for boundary conditions of the first three types, the fourth type being just as amenable to more precise solution. Orig. art. has: 33 formulas.

ASSOCIATION: Agrofizicheskiy institut, g. Leningrad (Agrophysics Institute)

Card 1/2

L 15041-65

ACCESSION NR: AP4048857

SUBMITTED: 24Sep63

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ENCL: 00

SUB CODE: TD, MA

NO REF SOV: 003

OTHER: 003

Card 2/2

CHUDNOVSKIY, A.F.; PLYAT, Sh.N.

A.I. Pekhovich and V.M. Zhidkikh's monograph "Graphic method
of calculating the nonsteady thermal state inside a plate".
Inzh.-fiz. zhur. no.10:128-129 0 '64.

(MIRA 17:11)

L 21323-65 EWT(1)/EPA(s)-2/EPF(n)-2/EWG(v)/EPR/EWA(1) Ps-5/Pe-4/Pt-10/
Pu-4 ESD/SSD/AFWL/AEDC(s)/ASD(s)-5/AS(mp)-2/ASD(p)-3/ESD(t) WW

ACCESSION NR: AP5002026

S/0170/64/000/012/0023/0031

AUTHORS: Mogilevskiy, B. M.; Chudnovskiy, A. F.

TITLE: Heat conduction measurements in semiconductors by the transient probe method

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 12, 1964, 23-31

TOPIC TAGS: heat conduction, transient heat transfer, semiconductor, Fourier equation, thermal conductivity

ABSTRACT: The known method of measuring thermal conduction with a constant-power cylindrical probe was studied analytically in great detail to evaluate its limitations when applied to semiconductors at high temperatures. The heater in the probe was inserted in an insulated casing carrying thermocouples. The probe and the specimen were of finite lengths, and the test material was placed in a container of finite size. All these factors were studied by integrating the Fourier conduction equation in cylindrical coordinates. The calculations show that errors in measuring can be attributed to: the heat capacity of the heater and the thermal characteristics of the insulator; the length of the test specimen; and the thickness of the experimental material. A transient version of the coaxial cylinder probe method is suggested. From the solution of the transient Fourier conduction equation it is

Card 1/3

L 21323-65

ACCESSION NR: AP5002026

shown that heat leakage by this method is less than 5% within the measurement time span. The schematic of the probe is given in Fig. 1 on the Enclosure. In the temperature range 20-800C (including the transition to a liquid state) the thermal conductivities of semiconductors with metal properties upon melting (InSb, BiTe₃, 2-Sb), and the conductivities of semiconductors which retain their properties (S, Se, V₂O₅) were obtained by this transient method, and were compared with other existing data. For $\lambda > 4$ volt/(m. degrees), the error lay within the limits ± 15 to 20%, and for $\lambda < 4$ volt/(m. degree) the error was less than $\pm 10\%$ Orig. art. has: 16 equations and 2 figures.

ASSOCIATION: Agrofizicheskiy nauchno-issledovatel'skiy institut g. Leningrad
(Scientific Research Institute of Agricultural Physics)

SUBMITTED: 22Jul64

ENCL: 01

SUB CODE: SS,TD

NR REF SOV: 005

OTHER: 006

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L 21523-65

ACCESSION NR: AP5002026

ENCLOSURE 01

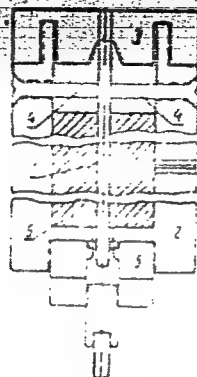


Fig. 1. Probe schematic

- 1 - cylindrical probe; 2 - measuring glass
- 3 - centering cover; 4 - centering ring
- 5 - cleaning out; 6 - test specimen

Card 3/3

SMIRNOV, V.S.; CHUDNOVSKIY, A.F.

Using electrothermal and mechanical analogies to study the
properties of metals and alloys. Trudy IPI no.243:5-11 '65.
(MIRA 18:6)

SMIRNOV, V.S.; CHUDNOVSKIY, A.F.; ROZOV, I.A.

Using formulas of correlated conductivity for the study of thermal,
electric, and thermoelectric properties of semiconducting materials.
Trudy LPI no.243:19-23 '65. (MIRA 18:6)

L 26394-66 BPF(n)-2/EWT(d)/EWT(1) IJP(c) WW

ACC NR: AP6007192

SOURCE CODE: UR/0170/66/010/002/0252/0257

AUTHORS: Privin, M. R.; Chudnovskiy, A. F.

ORG: Aerophysics Institute, Leningrad (Aerofizicheskiy institut)

TITLE: The two-dimensional temperature field of a semiconductor thermopile

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 2, 1966, 252-257

TOPIC TAGS: thermoelectric equipment, heat balance, semiconductor device, second order equation, differential equation, heat equation, thermal emf

ABSTRACT: Analytic relations for the two-dimensional temperature field of a semiconductor thermopile for steady-state operation are obtained. A cell of a thermopile bounded by two planes that pass through the middle of the cell and the middle of the insulating layer is selected. The temperature field of the cell is described by

$$\frac{\partial^2 T_1}{\partial x^2} + \frac{\partial^2 T_1}{\partial y^2} + \frac{\rho}{\lambda_1} = 0, \quad 0 \leq x < l, \quad 0 \leq y \leq \delta_1$$

$$\frac{\partial^2 T_2}{\partial x^2} + \frac{\partial^2 T_2}{\partial y^2} = 0, \quad 0 \leq x < l, \quad \delta_1 \leq y \leq \delta$$

with the boundary conditions

Card 1/3

UDC: 536.21

L 26394-66

ACC NR: AP6007192

$$\begin{aligned}
 &x=0, \quad 0 < y \leq \delta; \quad T_1(x, y) = T_2(x, y) = T_0; \\
 &x=l, \quad 0 \leq y < \delta; \quad T_1(x, y) = T_2(x, y) = T; \\
 &0 < x < l, \quad y=0; \quad \frac{\partial T_1}{\partial y} = 0; \\
 &0 < x < l, \quad y=\delta; \quad \frac{\partial T_2}{\partial y} = 0; \\
 &0 < x \leq l, \quad y=\delta_1; \quad T_1(x, y) = T_2(x, y); \quad \lambda_1 \frac{\partial T_1}{\partial y} = \lambda_2 \frac{\partial T_2}{\partial y}
 \end{aligned}$$

The solutions

$$\begin{aligned}
 T_1(x, y) &= \frac{2}{l} \sum_{k=1}^{\infty} \left\{ \frac{i^k \rho l^2 [1 - (-1)^k]}{(k\pi)^2 \lambda_1} \left[1 - \left(\lambda_2 \operatorname{ch} k\pi \frac{y}{l} \operatorname{th} k\pi \frac{\delta_2}{l} \right) \times \right. \right. \\
 &\times \left. \left(\lambda_1 \operatorname{sh} k\pi \frac{\delta_1}{l} + \lambda_2 \operatorname{ch} k\pi \frac{\delta_1}{l} \operatorname{th} k\pi \frac{\delta_2}{l} \right)^{-1} \right] - \frac{[T(-1)^k - T_0] l}{k\pi} \right\} \sin k\pi \frac{x}{l}; \\
 T_2(x, y) &= \frac{2}{l} \sum_{k=1}^{\infty} \left\{ \frac{i^k \rho l^2 [1 - (-1)^k]}{(k\pi)^2 \lambda_2} \left[\left(\lambda_1 \operatorname{ch} k\pi \frac{\delta - y}{l} \operatorname{th} k\pi \frac{\delta_1}{l} \right) \times \right. \right. \\
 &\times \left. \left(\lambda_2 \operatorname{ch} k\pi \frac{\delta_2}{l} + \lambda_1 \operatorname{ch} k\pi \frac{\delta_2}{l} \operatorname{th} k\pi \frac{\delta_1}{l} \right)^{-1} \right] - \frac{[T(-1)^k - T_0] l}{k\pi} \right\} \sin k\pi \frac{x}{l}.
 \end{aligned}$$

"L 26394-66

ACC NR: AP6007192

give the values T_1 and T_2 at all points inside the region in question with the exception of its boundaries $x = 0$ and $x = 1$. The obtained formulas can also be used to determine the heat fluxes to the junctions of the pile. Orig. art. has: 28 formulas.

SUB CODE: 09, 20/ SUBM DATE: 01Jun65/ ORIG REF: 003/ OTH REF: 001

Card 3/3

С.И. ПРОКУРСКИЙ, А.М.

AUTHORS:

Kaynarskiy, I.S., Pindrik, B.Ye., Bovkun, S.S.,
Sidorenko, Yu.P., Chudnovskiy, A.M.

13-12-1/9

TITLE:

Production (Proizvodstvo) The Organization of Dinas Chromite Production (Organizatsiya proizvodstva dinasokhromita)

PERIODICAL:

Ogneupory, 1957, Nr 12, pp. 529-533 (USSR)

ABSTRACT:

Before current production was organized a set of test samples was put together, the composition and method of production of which is described in detail. The raw material was dried in a tunnel drying plant and then pressed. The dinas chromite was burnt in gas chamber kilns according to the regime for Martin dinas at 1425-1445°. The results of sorting out showed that dinas chromite can be burnt according to the regime of Martin dinas. Furthermore, the chemical composition, the porosity, the pressure- and breaking strength, refractoriness, permeability to gas, heat conductivity, and the specific heat are given. In table 1 a comparison is drawn between dinas chromite and dinas with respect to slag erosion. The illustration shows the curves of heat expansion of dinas chromite at various temperatures. Further results of microscopical investigations of the structure are given. From all results mentioned above it may be seen that, with respect to its properties, dinas chromite is very similar to dinas, but that

Card 1/2

Production. The Organization of Dinas Chromite Production

13~~4~~-12-1/9

it is distinguished by a greater resistance against slag at moderate temperatures. For current industrial production the technological process was precisely described, and the best working conditions were provided, which are described in detail. Table 2 shows the burning temperatures. The physical-ceramic properties of dinas chromite are shown in table 3. The results obtained by the investigation of three complete sets of current production may be seen from table 4. In conclusion it is said that the production of dinas chromite presents no difficulties and requires no additional equipment: it can be carried out in any dinas plant. There are 1 figure, 4 tables, and 2 Slavic references.

ASSOCIATION: Khar'kov Institute for Refractories (Khar'kovskiy institut ogneporov) The Dinas Factory imeni Dzerzhinskiy (Dinasovyy zavod imeni Dzerzhinskiy).

AVAILABLE: Library of Congress

Card 2/2

GUSEV, Vladimir Alekseyevich; POKRASS, Leonid Iosifovich;
CHUDNOVSKIY, Abram Mironovich; MOSKALENKO, I.Ye., red.

[Improve the quality of construction work] Sovershen-
stvovat' kachestvo stroitel'nykh rabot. Kiev, Budivel'-
nyk, 1965. 85 p. (MIRA 18:12)

STEPANYUK, Ye.I., kand. tekh. nauk; CHUDNOVSKIY, A.M., inzh.

Analyzing the existing methods for the calculation of the
screw-nozzle propeller complex. Trudy IIVT no.45:27-43 '63.
(MIRA 17:6)

CHUDNOVSKIY, A.A.

PHASE I BOOK EXPLOITATION SOV/6209

Akhmechet, Leonid Samoylovich, Leonid Vladimirovich Vayser, and Arkadiy Romanovich Chudnovskiy.

Primeneniye plasticheskikh mass v tekhnologicheskoy osnastke (The Use of Plastics in Engineering Equipment) Moscow, Mashgiz, 1962. 155 p. 10,500 copies printed.

Reviewer: L. S. Pilipenko, Engineer; Ed.: A. I. Bykovskiy, Engineer; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed. (Southern Division, Mashgiz): V. K. Serdyuk, Engineer.

PURPOSE: This book is intended for technical personnel in machine plants engaged in the design and manufacture of engineering equipment.

COVERAGE: The book deals with the use of plastics in the manufacture of engineering equipment, such as molds, dies, fixtures, and tools. Suggestions are made on how to design, manufacture, and use the plastic

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The Use of Plastics (Cont.)

SOV/6209

equipment. The properties and application of the more common plastic compositions are described and listed in an appendix. The authors thank Z. Z. Trakhtenberg, Engineer. There are 94 references, all Soviet.

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The Use of Plastics (Cont.)	SOV/6209
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AVAILABLE: Library of Congress	
SUBJECT: Mechanical Engineering Machine Industry	
Card 4/4	BN/clb/os 4/29/63

CHUDNOVSKIY, A.R., inzh.; VAYSER, L.D., inzh.; POLEVOY, S.N., inzh.

Plastic duplicators. Mashinostroenie no.1:10-11 Ja-F '62.

(MIRA 15:2)

1. Odesskiy zavod kholodil'nogo mashinostroyeniya.
(Plastics)

CHUDNOVSKIY, A. R., inzh.; VAYSER, L. V., inzh.; GRABOY, L. P., inzh.;
MOROZ, V. A., inzh.

Using plastics in electroplating. Mashinostroyeniye no. 5:71-72
S-O '62. (MIRA 16:1)

1. Odesskiy zavod kheledil'noye mashinostroyeniya.

(Electroplating) (Plastics)

CHUDNOVSKIY, A.R. [Chudnovs'kyi, A.R.]; BRONFENBRENER, Z.V.

Factors affecting the shrinkage of plastics. Khim. prom.
[Ukr.] no.3:9-13 J1-S '63. (MIRA 17:8)

1. Chernomorskiy sovet narodnogo khozyaystva.

S/191/63/000/003/011/022
B101/B186

AUTHORS: Akhmechet, L. S., Vayser, L. V., Chudnovskiy, A. R.

TITLE: Effect of fillers on the properties of plastic compositions
used for producing industrial equipment

PERIODICAL: Plasticheskiye massy, no. 3, 1963, 37-38

TEXT: Without specifically mentioning details of their own publication,
the authors give a review of various filler and of their application in
the West, based on publications in the "Mashinostroyeniye za rubezhom"
and "Vestnik mashinostroyeniya". There are 2 tables. ✓

Card 1/1

CHUDNOVSKIY, A.R., inzh.; VAYSER, L.V., inzh.; GRABYY, L.P., inzh.

Making die-casting molds of thermoplastic polymers for casting parts. Mashinostroyeniye no.3:79-80 My-Je '63. (MIRA 16:7)

1. Chernomorskiy sovet narodnogo khozyaystva.
(Die casting—Equipment and supplies)
(Thermoplastics)

CHUDNOVSKIY, A.R.

Casting of parts with simultaneous combustion of the pattern in
the mold. Lit. proizv. 5:36. My '64. (MIRA 18:3)

TRAKHTENBERG, Z.Z.; CHUDNOVSKIY, A.R.

Eliminating defects in castings and parts with pastes on an epoxy,
polyester, and acrylic resin base. Lit.proizv. no.10:37 0 '64.
(MIRA 18:4)

L 32265-65 EPF(c)/EPR/ENG(v)/EWP(j)/ENT(m)/T PC-4/Pe-5/Pt-4/ps-4 RM/WH
ACCESSION NR: AP5006562 8/0191/65/000/003/0041/0043

AUTHOR: Graboy, L. P.; Lenskaya, L. P.; Chudnovskiy, A. R. 40
15

TITLE: Determination of the thermal conductivity of graphite-filled plastics
based on epoxy resins 15

SOURCE: Plasticheskiye massy, no. 3, 1965, 41-43

TOPIC TAGS: graphite filled plastic, epoxy resin, graphite, injection molding,
capron, polyethylene, mold material, thermal conductivity

ABSTRACT: A new material has been developed for making molds for injection molding of plastics such as capron or polyethylene. The material consists of 100 parts by weight of thermosetting E-1200 epoxy resin, 8 parts of polyethylene polyamine (curing agent), and 100-200 parts of electrode graphite (filler). The material exhibits high thermal conductivity and high heat resistance. The effect of temperature from 45.7 to 228.6C on the thermal conductivity of the new material was studied by a method developed by A. A. Semenov. Formulas are given for calculation of the thermal conductivity. Results of the study, given in the form of tables, indicate that the thermal conductivity of graphite-filled plastics with a high graphite content increases with the temperature of the

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specimen. Heat treatment stabilizes the higher thermal conductivity so that it is maintained at room temperature. The new material exhibits lasting heat resistance and strength at temperatures up to 300C. In view of their simple production technology, the use of molds made with the new material is recommended by the authors. Orig. art. has: 2 figures and 2 tables. [BO]

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